

FIG. 1

FIGURE 2

Scheme 1. Synthesis of 2-carbomethoxy-3-aryl bicyclo[3.2.1]octanes

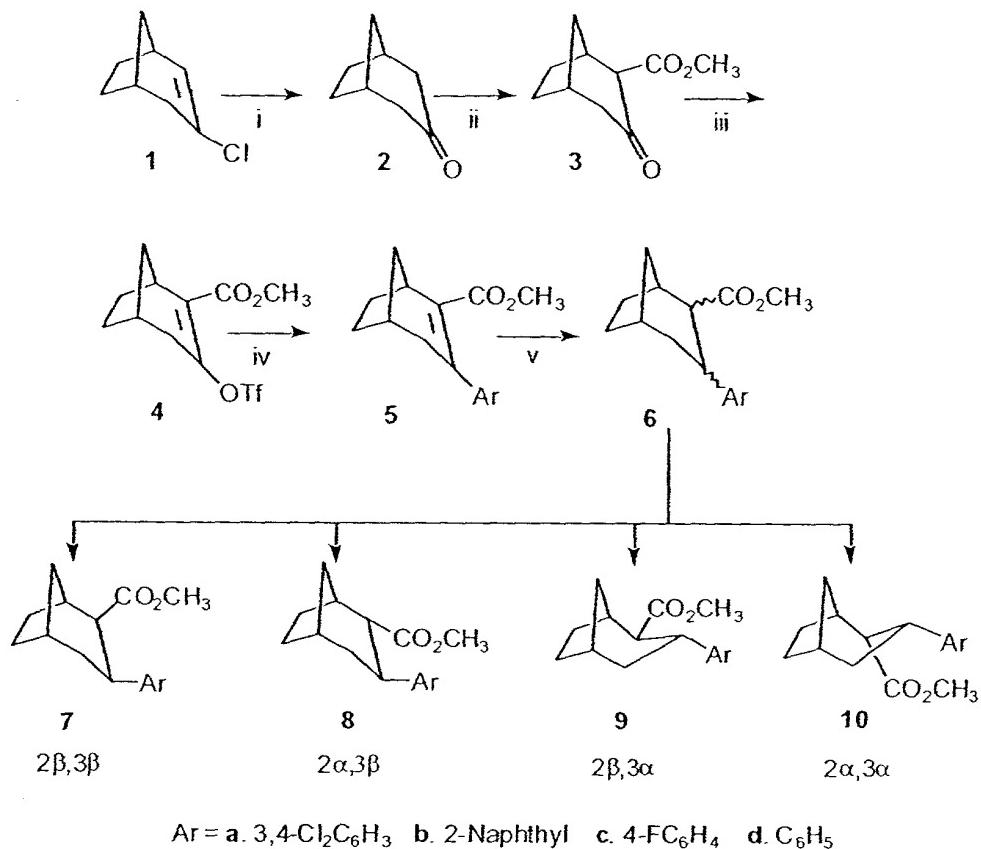
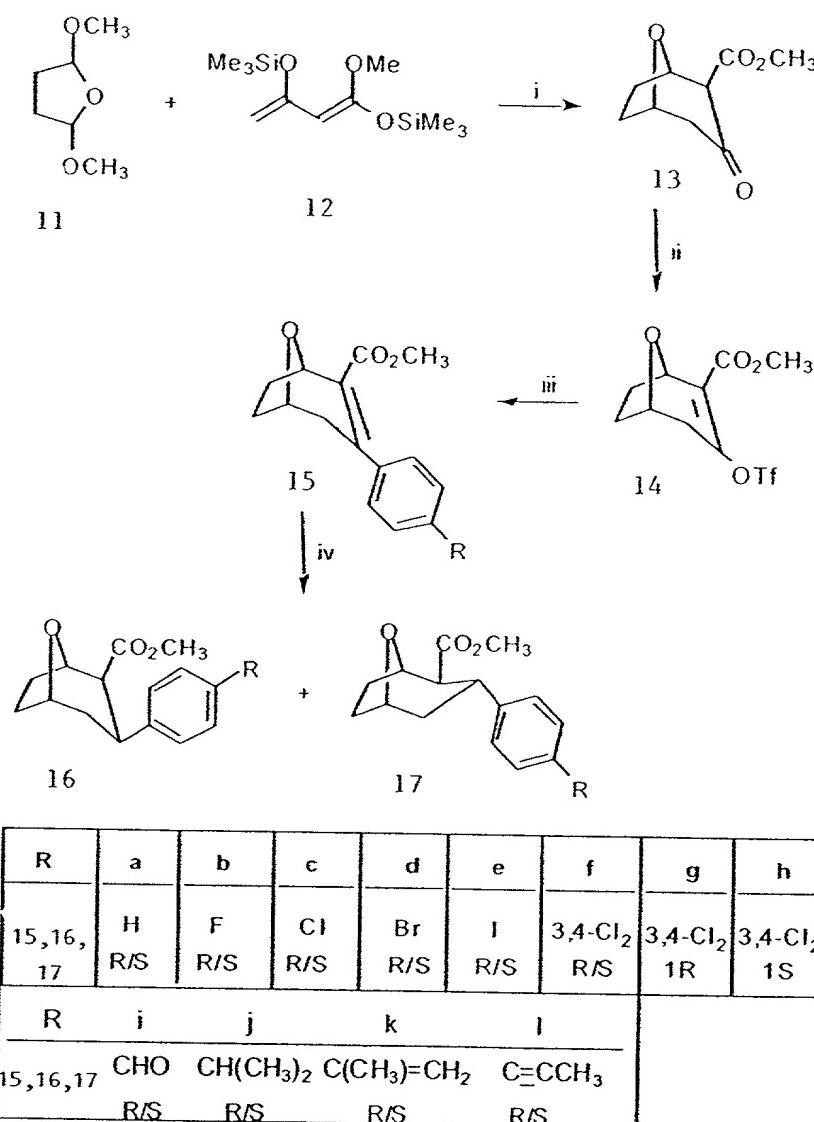


FIGURE 3

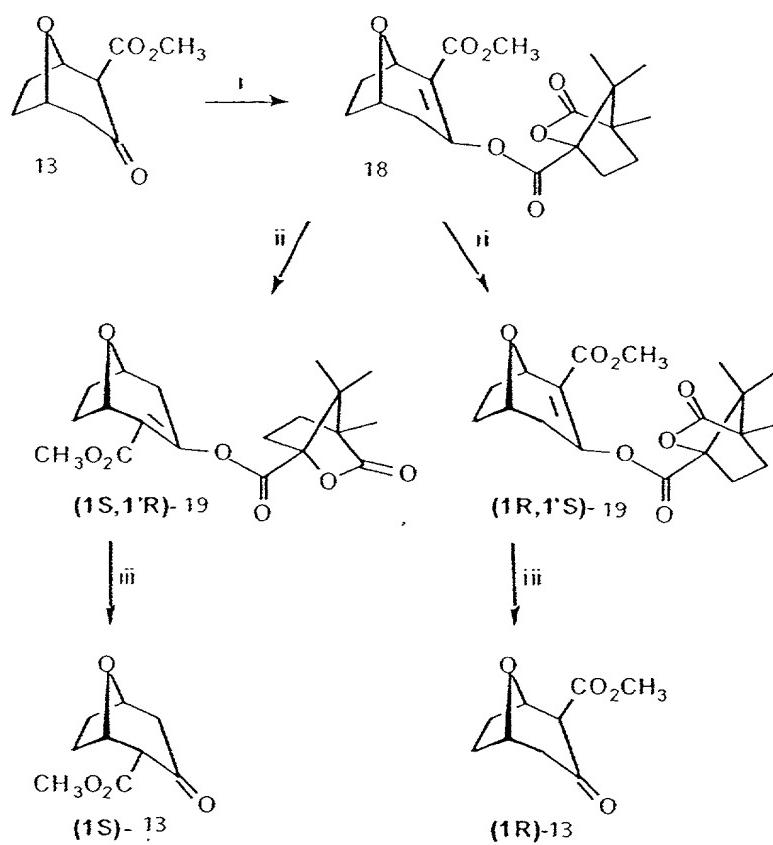
Scheme 2 Synthesis of 3-aryl-8-oxabicyclo[3.2.1]octanes



Reagents : i) $TiCl_4$. ii) $Na(TMS)_2N$, $Ph(Tf)_2N$, THF, -78°C. iii) $ArB(OH)_2$, Pd_2dba_3 , Na_2CO_3 , LiCl. iv) SmI_2 , Methanol, -78°C.

FIGURE 4

Scheme 3 Resolution of keto ester 3



Reagents : i) $\text{Na}(\text{TMS})_2\text{N}$, (S)-Camphanic chloride or (R)-Camphanic chloride, THF , -78°C . ii) Hexane / CH_2Cl_2 (2:1), 0°C
 iii) LiOH , THF , MeOH , H_2O .